

# **MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY**

**PPG Industries, Inc  
424 East Inglefield Road  
Evansville, Indiana 47725**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.:MSOP 163-13849-00094	
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: January 25, 2002  Expiration Date: January 25, 2007

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## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

PPG Industries, Inc. has requested that the following portions of their application be kept confidential. These portions include the capacities of process facilities, materials used and throughputs as provided in the application on Forms E, F, W-1, W-2, W-3 and W-4.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary transportation transparency manufacturing source, which includes silk screening, tempering, laminating and other processes.

Authorized Individual: Ralph Farber  
Source Address: 424 East Inglefield Road, Evansville, Indiana 47725  
Mailing Address: 424 East Inglefield Road, Evansville, Indiana 47725  
Phone Number: 812 - 868 - 8206  
SIC Code: 3231  
County Location: Vanderburgh  
County Status: Attainment for all criteria pollutants  
Source Status: Minor Source Operating Permit  
Minor Source, under PSD Rules;  
Minor Source, Section 112 of the Clean Air Act

### A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) silk screening operation, exhausted through Stacks 45, 55 and 56 (laminating) and Stacks 69, 70, 74 and 75 (tempering) with materials and capacities not indicated as confidentiality was requested, except for the talc application machines, consisting of:
  - (1) One (1) laminating line, known as Line 1, installed in 1980, includes silk screening, exhausting through Stack 45, equipped with a talc application machine controlled by a particulate matter trap, exhausted through Stack 117, capacity: 0.0007 pounds of talc per unit, equipped with two (2) cutting and two (2) edge machines.
  - (2) One (1) tempering line (cold end only), known as Line 2, equipped with one (1) cutting and two (2) edging machines, installed in 1980.
  - (3) One (1) tempering line, known as Line 3-1 (cold end only), installed in 1983, equipped with one (1) cutting and two (2) edge machines.
  - (4) One (1) tempering line, known as Line 3-2 (cold end only), installed in 1980, equipped with one (1) cutting and two (2) edge machines.
  - (5) One (1) tempering line, known as Line 3 (hot end only), installed in 1983, includes silk screening.

- (6) One (1) tempering line, known as Line 4 (cold end and hot end, but no silk screening), installed in 1980, equipped with one (1) cutting and two (2) edge machines.
- (7) One (1) tempering line, known as Line 5 (hot end only), includes silk screening of both silk screen frit and conductive coatings, installed in 1987, exhausting through Stacks 69 and 70.
- (8) One (1) tempering line, known as Line 6, includes silk screening of both silk screen frit and conductive coatings, installed in 1987, equipped with two (2) cutting and two (2) edge machines, exhausting through Stacks 74 and 75.
- (9) One (1) laminating line, known as Line 8A, includes silk screening of both silk screen frit and conductive coatings, installed in 1989, exhausted through Stack 55, equipped with a talc application machine controlled by fabric filters, exhausting through Stack 49, capacity: 0.003 pounds of talc per unit, equipped with one (1) cutting and one (1) edge machine.
- (10) One (1) laminating line, known as Line 8B, includes silk screening of both silk screen frit and conductive coatings, installed in 1989, exhausted through Stack 56, equipped with a talc application machine controlled by fabric filters, exhausting through Stack 50, capacity: 0.003 pounds of talc per unit, equipped with one (1) cutting and one (1) edge machine.
- (b) One (1) prime and assembly line, installed in July 2001, with materials and capacities not indicated as confidentiality was requested, consisting of a primer application, equipped with a felt tip applicator, exhausting through Stack 300 and primer curing station, exhausting through Stack 301, a clip assembly machine and two (2) rubber dam soldering stations.
- (c) Two (2) electric ovens, installed in 1989, exhausting through Stacks 121 - 128.
- (d) Three (3) natural gas-fired boilers, known as boiler #1 through #3, installed in 1980, exhausting through Stacks 14, 17 and 20, respectively, rated at 8.38 million British thermal units per hour or 250 horsepower, each.
- (e) One (1) natural gas-fired boiler, known as boiler #4, installed in 1987, exhausting through Stack 23, rated at 8.38 million British thermal units per hour or 250 horsepower.
- (f) One (1) natural gas-fired boiler, known as boiler #5, used to keep fire protection water from freezing, installed in 1980, exhausting through Stack 302, rated at 1.5 million British thermal units per hour.
- (g) Four (4) natural gas-fired burners, known as flame breakout, consisting of two (2) burners on Line 1 installed in 2000, one (1) burner on Line 8A installed in 1989, and one (1) burner on Line 8B installed in 1989, rated at 0.018 million British thermal units per hour, each.
- (h) One (1) natural gas-fired preheat oven on Line 8A, exhausting through Stack 120, installed in July 2000, rated at 3.0 million British thermal units per hour.
- (i) One (1) diesel-fired emergency generator, known as EG1, installed in 1997, rated at 197 horsepower output.
- (j) Two (2) diesel-fired emergency pumps, known as EP-1 and EP-2, installed in 1980, rated at 215 horsepower output, each.

- (k) Ten (10) parts washers, known as Washers #1 through #10, installed between 1985 and 2000, capacity: 30 gallons of nonhalogenated solvent, each.
- (l) One (1) parts washer, known as Washer #11, installed in 1981, capacity: 100 gallons of nonhalogenated solvent.
- (m) One (1) magnetic sputtered vacuum deposition process (no emissions) with capacity not indicated as confidentiality was requested.
- (n) One (1) off-line soldering process with materials and capacities not indicated as confidentiality was requested, consisting of three (3) manual soldering stations, installed in 1997 and one (1) manual soldering station, installed in 1999, exhausted through Stack 77.
- (o) One (1) interleaving process, equipped with a baghouse on Line 6, exhausted through Stack 119 with materials and capacity not indicated as confidentiality was requested,
- (p) Two (2) storage tanks, known as Tanks 1 and 2, installed in 1989, capacity: 500 gallons of water treatment product(s), each.
- (q) Three (3) storage tanks, known as Tanks 4, 5 and 6, used to store fuel for emergency generator and pumps, installed in 1980, 1980 and 1997, capacity: 300 gallons of diesel fuel, each.
- (r) One (1) storage tank, known as Tank 3, installed in 1987, capacity: 2,000 gallons of water treatment product.
- (s) Two (2) storage tanks, known as Tanks 7 and 9, installed in 1999, capacity: 400 gallons of water treatment product(s), each.
- (t) Two (2) storage tanks, known as Tanks 8 and 10, installed in 1992, capacity: 400 gallons of water treatment product(s), each.
- (u) Sulfur dioxide roll surface preparation, using four (4) 40 pounds cylinders, with materials and capacities not indicated as confidentiality was requested.
- (v) One (1) maintenance booth, equipped with dry filters for overspray control, with spray cans and/or air atomization spray applicators, exhausted through Stack 7, installed 1986.

## SECTION B

## GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

**B.1 Permit No Defense [IC 13]**

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

**B.2 Definitions**

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

**B.3 Effective Date of the Permit [IC13-15-5-3]**

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

**B.4 Modification to Permit [326 IAC 2]**

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

**B.5 Minor Source Operating Permit [326 IAC 2-6.1]**

- (a) This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1.
- (b) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (c) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in this permit. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source
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### C.1 Minor Source Status [326 IAC 2-2] [40 CFR 52.21] [326 IAC 2-7]

- (a) The total source potential to emit of all the criteria pollutants is less than two hundred fifty (250) tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit PM<sub>10</sub>, VOC, NO<sub>x</sub>, SO<sub>2</sub>, or CO to 100 tons per year from this source, shall cause this source to be considered a major source under 326 IAC 2-7, and shall require approval from IDEM, OAQ prior to making the change.
- (c) Any change or modification which may increase potential to emit PM to two hundred fifty (250) tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.

### C.2 Hazardous Air Pollutants (HAPs) [326 IAC 2-7]

Any change or modification which may increase potential to emit to ten (10) tons per year of any single hazardous air pollutant, twenty-five (25) tons per year of any combination of hazardous air pollutants from this source, shall cause this source to be considered a major source under Part 70 Permit Program, 326 IAC 2-7, and shall require approval from IDEM, OAQ, prior to making the change.

### C.3 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

### C.4 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.



- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

#### C.5 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ and U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements. [326 IAC 2-7-6(6)]

#### C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

#### C.7 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

**C.8 Opacity [326 IAC 5-1]**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

**C.9 Fugitive Dust Emissions [326 IAC 6-4]**

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

**Testing Requirements**

**C.10 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]**

- (a) Compliance testing on new emissions units shall be conducted within (sixty) 60 days after achieving maximum production rate, but no later than one hundred eighty (180) days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

### **Compliance Monitoring Requirements**

#### **C.11 Monitoring Methods [326 IAC 3]**

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

#### **C.12 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]**

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
  - (1) This condition;
  - (2) The Compliance Determination Requirements in Section D of this permit;
  - (3) The Compliance Monitoring Requirements in Section D of this permit;
  - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
  - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ (and local agency when applicable) upon request and shall be subject to review and approval by IDEM, OAQ, (and local agency when applicable). The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :
    - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
    - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further

response steps for any of the following reasons:

- (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
  - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
  - (3) An automatic measurement was taken when the process was not operating; or
  - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

**C.13 Actions Related to Noncompliance Demonstrated by a Stack Test**

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- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ, reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

**Record Keeping and Reporting Requirements**

**C.14 Malfunctions Report [326 IAC 1-6-2]**

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Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report

Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a) (1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.15 Annual Emission Statement [326 IAC 2-6]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
  - (1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
  - (2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.16 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that

would otherwise be required by this permit.

- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.17 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
  - (1) The date, place, and time of sampling or measurements;
  - (2) The dates analyses were performed;
  - (3) The company or entity performing the analyses;
  - (4) The analytic techniques or methods used;
  - (5) The results of such analyses; and
  - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
  - (1) Copies of all reports required by this permit;
  - (2) All original strip chart recordings for continuous monitoring instrumentation;
  - (3) All calibration and maintenance records;
  - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were

performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.18 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
  - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
  - (2) A malfunction as described in 326 IAC 1-6-2; or
  - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
  - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (e) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (f) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.19 Annual Notification [326 IAC 2-6.1-5(a)(5)]

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- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:  
  
Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.



## SECTION D.1

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Silk Screening Operation

- (a) One (1) silk screening operation, exhausted through Stacks 45, 55 and 56 (laminating) and Stacks 69, 70, 74 and 75 (tempering) with materials and capacities not indicated as confidentiality was requested, except for the talc application machines, consisting of:
- (1) One (1) laminating line, known as Line 1, installed in 1980, includes silk screening, exhausting through Stack 45, equipped with a talc application machine controlled by a particulate matter trap, exhausted through Stack 117, capacity: 0.0007 pounds of talc per unit, equipped with two (2) cutting and two (2) edge machines.
  - (2) One (1) tempering line (cold end only), known as Line 2, equipped with one (1) cutting and two (2) edging machines, installed in 1980.
  - (3) One (1) tempering line, known as Line 3-1 (cold end only), installed in 1983, equipped with one (1) cutting and two (2) edge machines.
  - (4) One (1) tempering line, known as Line 3-2 (cold end only), installed in 1980, equipped with one (1) cutting and two (2) edge machines.
  - (5) One (1) tempering line, known as Line 3 (hot end only), installed in 1983, includes silk screening.
  - (6) One (1) tempering line, known as Line 4 (cold end and hot end, but no silk screening), installed in 1980, equipped with one (1) cutting and two (2) edge machines.
  - (7) One (1) tempering line, known as Line 5 (hot end only), includes silk screening of both silk screen frit and conductive coatings, installed in 1987, exhausting through Stacks 69 and 70.
  - (8) One (1) tempering line, known as Line 6, includes silk screening of both silk screen frit and conductive coatings, installed in 1987, equipped with two (2) cutting and two (2) edge machines, exhausting through Stacks 74 and 75.
  - (9) One (1) laminating line, known as Line 8A, includes silk screening of both silk screen frit and conductive coatings, installed in 1989, exhausted through Stack 55, equipped with a talc application machine controlled by fabric filters, exhausting through Stack 49, capacity: 0.003 pounds of talc per unit, equipped with one (1) cutting and one (1) edge machine.
  - (10) One (1) laminating line, known as Line 8B, includes silk screening of both silk screen frit and conductive coatings, installed in 1989, exhausted through Stack 56, equipped with a talc application machine controlled by fabric filters, exhausting through Stack 50, capacity: 0.003 pounds of talc per unit, equipped with one (1) cutting and one (1) edge machine.
- (b) One (1) prime and assembly line, installed in July 2001, with materials and capacities not indicated as confidentiality was requested, consisting of a primer application, equipped with a felt tip applicator, exhausting through Stack 300 and primer curing station, exhausting through Stack 301, a clip assembly machine and two (2) rubber dam soldering stations.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

## **Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

### **D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]**

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the talc application machines on Lines 1, 8A and 8B shall not exceed 6.48, 4.21 and 4.21 pounds per hour, respectively.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour which has been} \\ \text{requested to be confidential.}$$

### **D.1.2 Volatile Organic Compounds [326 IAC 8-1-6]**

The VOC delivered to the applicators for coating glass on the laminating, tempering and conductive coating lines shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period. Compliance with this limitation shall render the requirements of 326 IAC 8-1-6 not applicable.

## **Compliance Determination Requirements [326 IAC 2-1.1-11]**

### **D.1.3 Volatile Organic Compounds (VOC)**

Compliance with the VOC usage limitation contained in Condition D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer.

### **D.1.4 VOC Emissions**

Compliance with Condition D.1.2 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the twelve (12) month period.

## **Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific Compliance Monitoring Requirements applicable to these emission units.

## **Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

### **D.1.5 Record Keeping Requirements**

(a) To document compliance with Condition D.1.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limit and/or the VOC emission limit established in Condition D.1.2.

- (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
- (2) A log of the dates of use;
- (3) The cleanup solvent usage for month; and

- (4) The weight of VOCs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.2

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Ovens and Combustion Facilities

- (c) Two (2) electric ovens, installed in 1989, exhausting through Stacks 121 - 128.
- (d) Three (3) natural gas-fired boilers, known as boiler #1 through #3, installed in 1980, exhausting through Stacks 14, 17 and 20, respectively, rated at 8.38 million British thermal units per hour or 250 horsepower, each.
- (e) One (1) natural gas-fired boiler, known as boiler #4, installed in 1987, exhausting through Stack 23, rated at 8.38 million British thermal units per hour or 250 horsepower.
- (f) One (1) natural gas-fired boiler, known as boiler #5, used to keep fire protection water from freezing, installed in 1980, exhausting through Stack 302, rated at 1.5 million British thermal units per hour.
- (g) Four (4) natural gas-fired burners, known as flame breakout, consisting of two (2) burners on Line 1 installed in 2000, one (1) burner on Line 8A installed in 1989, and one (1) burner on Line 8B installed in 1989, rated at 0.018 million British thermal units per hour, each.
- (h) One (1) natural gas-fired preheat oven on Line 8A, exhausting through Stack 120, installed in July 2000, rated at 3.0 million British thermal units per hour.
- (i) One (1) diesel-fired emergency generator, known as EG1, installed in 1997, rated at 197 horsepower output.
- (j) Two (2) diesel-fired emergency pumps, known as EP-1 and EP-2, installed in 1980, rated at 215 horsepower output, each.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

#### D.2.1 Particulate Matter (PM) [326 IAC 6-2-3]

- (a) Pursuant to 326 IAC 6-2-3(e), the PM emissions from each of the 8.38 million British thermal units per hour heat input boilers, known as boiler #1, #2 and #3 shall be limited to 0.6 pounds per million British thermal units heat input.
- (b) Pursuant to 326 IAC 6-2-3, the PM emissions from the 1.5 million British thermal units per hour heat input boiler, known as boiler #5 shall be limited to 0.528 pounds per million British thermal units heat input.

This limitation is based on the following equation:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}} \quad Pt = \text{lbs of PM emitted per MMBtu heat input}$$

where:

C = maximum ground level concentration (default = 50 u/m<sup>3</sup>)  
a = plume rise factor (default = 0.67 for Q less than 1,000 MMBtu/hr)  
h = stack height in feet  
Q = total source maximum operating capacity  
N = number of stacks in fuel burning operation

**D.2.2 Particulate Matter (PM) [326 IAC 6-2-4]**

Pursuant to 326 IAC 6-2-4, the PM emissions from the 8.38 million British thermal units per hour heat input boiler, known as boiler #4 shall be limited to 0.432 pounds per million British thermal units heat input.

$$Pt = \frac{1.09}{Q^{0.26}}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units.

Q = Total source maximum operating capacity rating in million British thermal units heat input. The maximum operating capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit, in which case, the capacity specified in the operation permit shall be used.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

There are no specific Compliance Determination Requirements applicable to these emission units.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific Compliance Monitoring Requirements applicable to these emission units.

## SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

### **Emissions Unit Description:** Parts Washers

- (k) Ten (10) parts washers, known as Washers #1 through #10, installed between 1985 and 2000, capacity: 30 gallons of nonhalogenated solvent, each.
- (l) One (1) parts washer, known as Washer #11, installed in 1981, capacity: 100 gallons of nonhalogenated solvent.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

#### D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

#### D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5(a) and (b)]

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, shall ensure that the following requirements are met:
  - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
    - (B) The solvent is agitated; or
    - (C) The solvent is heated.
  - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) milli-

meters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
    - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

#### **Compliance Determination Requirements [326 IAC 2-1.1-11]**

There are no specific Compliance Determination Requirements applicable to these emission units.

#### **Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific Compliance Monitoring Requirements applicable to these emission units.

## SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

### **Emissions Unit Description:** Deposition, Soldering and Interleaving Processes

- (m) One (1) magnetic sputtered vacuum deposition process (no emissions) with capacity not indicated as confidentiality was requested.
- (n) One (1) off-line soldering process with materials and capacities not indicated as confidentiality was requested, consisting of three (3) manual soldering stations, installed in 1997 and one (1) manual soldering station, installed in 1999, exhausted through Stack 77.
- (o) One (1) interleaving process, equipped with a baghouse on Line 6, exhausted through Stack 119 with materials and capacity not indicated as confidentiality was requested,

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

#### **D.4.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]**

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the interleaving process shall not exceed 6.08 pounds per hour.
- (b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the offline soldering process shall not exceed 7.76 pounds per hour.
- (c) The pound per hour limitations were calculated with the following equation

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

### **Compliance Determination Requirements [326 IAC 2-1.1-11]**

There are no specific Compliance Determination Requirements applicable to these emission units.

### **Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific Compliance Monitoring Requirements applicable to these emission units.



## SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

### **Emissions Unit Description:** Storage Tanks

- (p) Two (2) storage tanks, known as Tanks 1 and 2, installed in 1989, capacity: 500 gallons of water treatment product(s), each.
- (q) Three (3) storage tanks, known as Tanks 4, 5 and 6, used to store fuel for emergency generator and pumps, installed in 1980, 1980 and 1997, capacity: 300 gallons of diesel fuel, each.
- (r) One (1) storage tank, known as Tank 3, installed in 1987, capacity: 2,000 gallons of water treatment product.
- (s) Two (2) storage tanks, known as Tanks 7 and 9, installed in 1999, capacity: 400 gallons of water treatment product(s), each.
- (t) Two (2) storage tanks, known as Tanks 8 and 10, installed in 1992, capacity: 400 gallons of water treatment product(s), each.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

There are no specific Emission Limitations and Standards applicable to these emission units.

### **Compliance Determination Requirements [326 IAC 2-1.1-11]**

There are no specific Compliance Determination Requirements applicable to these emission units.

### **Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific Compliance Monitoring Requirements applicable to these emission units.

## SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

### **Emissions Unit Description:** Surface Preparation and Maintenance Booth

- (u) Sulfur dioxide roll surface preparation, using four (4) 40 pounds cylinders, with materials and capacities not indicated as confidentiality was requested.
- (v) One (1) maintenance booth, equipped with dry filters for overspray control, with spray cans and/or air atomization spray applicators, exhausted through Stack 7, installed 1986.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

#### **D.6.1 Volatile Organic Compounds [326 IAC 8-2-9]**

Any change or modification which would increase the potential to emit VOC from the maintenance booth to twenty-five (25) tons per year or more on metal substrates, shall require prior approval from IDEM, OAQ.

#### **D.6.2 Particulate Matter (PM) [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2, the PM from the maintenance booth shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

### **Compliance Determination Requirements [326 IAC 2-1.1-11]**

#### **D.6.3 Volatile Organic Compounds (VOC)**

Compliance with the VOC usage limitation contained in Condition D.6.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer.

#### **D.6.4 Particulate Matter (PM)**

In order to comply with Condition D.6.2, the dry filters for PM control shall be in operation and control emissions from the maintenance booth at all times when the maintenance booth is in operation.

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

#### **D.6.5 Monitoring**

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the maintenance coating booth stack while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) Monthly inspections shall be performed of the coating emissions from the maintenance booth exhaust, Stack 7, and the presence of overspray on the rooftops and the nearby ground. During periods of inclement weather, these inspections shall be performed as weather permits. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

**Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

**D.6.6 Record Keeping Requirements**

- (a) To document compliance with Condition D.6.1, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limit and/or the VOC emission limit established in Condition D.6.1.
  - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) A log of the dates of use;
  - (3) The cleanup solvent usage for month; and
  - (4) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Conditions D.6.4 and D.6.5, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?\_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ?\_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES ?\_\_\_\_\_, 25 TONS/YEAR VOC ?\_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ?\_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ?\_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?\_\_\_\_\_, 25 TONS/YEAR FLUORIDES ?\_\_\_\_\_, 100 TONS/YEAR CARBON MONOXIDE ?\_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?\_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?\_\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?    Y        N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?    Y        N

COMPANY: \_\_\_\_\_ PHONE NO. : \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/20\_\_\_\_        \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/20\_\_\_\_        \_\_\_\_\_ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO<sub>2</sub>, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_  
INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Please note - This form should only be used to report malfunctions  
applicable to Rule 326 IAC 1-6 and to qualify for  
the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

\* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>PPG Industries, Inc.</b>
<b>Address:</b>	<b>424 East Inglefield Road</b>
<b>City:</b>	<b>Evansville, Indiana 47725</b>
<b>Phone #:</b>	<b>812-868-8206</b>
<b>MSOP #:</b>	<b>163-13849-00094</b>

I hereby certify that PPG Industries, Inc. is ☒ still in operation.  
☐ no longer in operation.

I hereby certify that PPG Industries, Inc. is ☒ in compliance with the requirements of MSOP **163-13849-00094**.  
☐ not in compliance with the requirements of MSOP **163-13849-00094**.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**COMPLIANCE DATA SECTION**

**Quarterly Report**

Company Name: PPG Industries, Inc.  
Location: 425 East Inglefield Road, Evansville, Indiana 47725  
Permit No.: MSOP 163-13849-00094  
Facilities: Laminating, tempering and conductive coating lines  
Parameter: VOC delivered to the applicators for coating glass  
Limit: Less than twenty-five (25) tons per twelve (12) consecutive month period

**Year:** \_\_\_\_\_

Month	VOC (tons)	VOC (tons)	VOC (tons)
	This Month	Previous 11 Months	12 Month Total

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Minor Source Operating Permit

<b>Source Name:</b>	<b>PPG Industries, Inc.</b>
<b>Source Location:</b>	<b>424 East Inglefield Road, Evansville, Indiana 47725</b>
<b>County:</b>	<b>Vanderburgh</b>
<b>SIC Code:</b>	<b>3231</b>
<b>Construction Permit No.:</b>	<b>MSOP 163-13849-00094</b>
<b>SIC Code:</b>	<b>3231</b>
<b>Permit Reviewer:</b>	<b>Mark L. Kramer</b>

On December 22, 2001, the Office of Air Quality (OAQ) had a notice published in the Evansville Courier, Evansville, Indiana, stating that PPG Industries, Inc. had applied for an operating permit to construct and operate a tempered and laminated glass screen printing source. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 21, 2002, Ralph Farber of PPG, submitted comments on the proposed operating permit. The summary of the comments and corresponding responses are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

#### Comment 1:

Section A.1 (PPG recommends the wording should read)

The permittee owns and operates as a stationary source, a transportation transparency manufacturing facility, which includes silk screening, tempering, laminating and other processes.

#### Response 1:

Condition A.1 has been revised as follows:

A.1	General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
	The Permittee owns and operates a stationary <b>transportation transparency manufacturing</b> <del>tempered and laminated glass screen printing</del> source, <b>which includes silk screening, tempering, laminating and other processes.</b>

#### Comment 2:

Section D.6.5 Monitoring (Relating to the "Surface Preparation and Maintenance Booth" emission unit)

PPG requests confirmation from the Agency that "Daily Inspections" (to verify the placement, integrity, and particulate loading of the filters) are defined as an activity required on "normal production days". PPG would not have qualified staff on site during Holidays, weekends or shutdown to do such inspections.



**Response 2:**

When the maintenance booth is in operation on any day of the year, regardless if it is a weekday, weekend or holiday, the daily inspections need to be performed. Only when the maintenance booth is not in operation for an entire day, is the requirement to inspect the verify the placement, integrity, and particulate loading of the filters waived. Therefore, no changes to Condition D.6.5 of the proposed permit are necessary.

**Indiana Department of Environmental Management  
Office of Air Quality**

**Technical Support Document (TSD) for  
a Minor Source Operating Permit**

**Source Background and Description**

<b>Source Name:</b>	<b>PPG Industries, Inc.</b>
<b>Source Location:</b>	<b>424 East Inglefield Road, Evansville, Indiana 47725</b>
<b>County:</b>	<b>Vanderburgh</b>
<b>SIC Code:</b>	<b>3231</b>
<b>Operation Permit No.:</b>	<b>MSOP 163-13849-00094</b>
<b>Permit Reviewer:</b>	<b>Mark L. Kramer</b>

The Office of Air Quality (OAQ) has reviewed an application from PPG Industries, Inc. relating to the construction and operation of a tempered and laminated glass screen printing source.

This PPG Industries, Inc. has a postal address in Evansville, Indiana. PPG Industries, Inc. is not located in the area under jurisdiction of the City of Evansville Environmental Protection Agency. This status has been confirmed by Donna Bergman, Director of the City of Evansville Environmental Protection Agency.

**Confidentiality**

PPG Industries, Inc. has requested that the following portions of their application be kept confidential. These portions include the capacities of process facilities, materials used and throughputs as provided in the application on Forms E, F, W-1, W-2, W-3 and W-4.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) silk screening operation, exhausted through Stacks 45, 55 and 56 (laminating) and Stacks 69, 70, 74 and 75 (tempering) with materials and capacities not indicated as confidentiality was requested, except for the talc application machines, consisting of:
  - (1) One (1) laminating line, known as Line 1, installed in 1980, includes silk screening, exhausting through Stack 45, equipped with a talc application machine controlled by a particulate matter trap, exhausted through Stack 117, capacity: 0.0007 pounds of talc per unit, equipped with two (2) cutting and two (2) edge machines.
  - (2) One (1) tempering line (cold end only), known as Line 2, equipped with one (1) cutting and two (2) edging machines, installed in 1980.
  - (3) One (1) tempering line, known as Line 3-1 (cold end only), installed in 1983, equipped with one (1) cutting and two (2) edge machines.
  - (4) One (1) tempering line, known as Line 3-2 (cold end only), installed in 1980,

equipped with one (1) cutting and two (2) edge machines.

- (5) One (1) tempering line, known as Line 3 (hot end only), installed in 1983, includes silk screening.
  - (6) One (1) tempering line, known as Line 4 (cold end and hot end, but no silk screening), installed in 1980, equipped with one (1) cutting and two (2) edge machines.
  - (7) One (1) tempering line, known as Line 5 (hot end only), includes silk screening of both silk screen frit and conductive coatings, installed in 1987, exhausting through Stacks 69 and 70.
  - (8) One (1) tempering line, known as Line 6, includes silk screening of both silk screen frit and conductive coatings, installed in 1987, equipped with two (2) cutting and two (2) edge machines, exhausting through Stacks 74 and 75.
  - (9) One (1) laminating line, known as Line 8A, includes silk screening of both silk screen frit and conductive coatings, installed in 1989, exhausted through Stack 55, equipped with a talc application machine controlled by fabric filters, exhausting through Stack 49, capacity: 0.003 pounds of talc per unit, equipped with one (1) cutting and one (1) edge machine.
  - (10) One (1) laminating line, known as Line 8B, includes silk screening of both silk screen frit and conductive coatings, installed in 1989, exhausted through Stack 56, equipped with a talc application machine controlled by fabric filters, exhausting through Stack 50, capacity: 0.003 pounds of talc per unit, equipped with one (1) cutting and one (1) edge machine.
- (b) One (1) prime and assembly line, installed in July 2001, with materials and capacities not indicated as confidentiality was requested, consisting of a primer application, equipped with a felt tip applicator, exhausting through Stack 300 and primer curing station, exhausting through Stack 301, a clip assembly machine and two (2) rubber dam soldering stations.
  - (c) Two (2) electric ovens, installed in 1989, exhausting through Stacks 121 - 128.
  - (d) Three (3) natural gas-fired boilers, known as boiler #1 through #3, installed in 1980, exhausting through Stacks 14, 17 and 20, respectively, rated at 8.38 million British thermal units per hour or 250 horsepower, each.
  - (e) One (1) natural gas-fired boiler, known as boiler #4, installed in 1987, exhausting through Stack 23, rated at 8.38 million British thermal units per hour or 250 horsepower.
  - (f) One (1) natural gas-fired boiler, known as boiler #5, used to keep fire protection water from freezing, installed in 1980, exhausting through Stack 302, rated at 1.5 million British thermal units per hour.
  - (g) Four (4) natural gas-fired burners, known as flame breakout, consisting of two (2) burners on Line 1 installed in 2000, one (1) burner on Line 8A installed in 1989, and one (1) burner on Line 8B installed in 1989, rated at 0.018 million British thermal units per hour, each.
  - (h) One (1) natural gas-fired preheat oven on Line 8A, exhausting through Stack 120, installed in July 2000, rated at 3.0 million British thermal units per hour.

- (i) One (1) diesel-fired emergency generator, known as EG1, installed in 1997, rated at 197 horsepower output.
- (j) Two (2) diesel-fired emergency pumps, known as EP-1 and EP-2, installed in 1980, rated at 215 horsepower output, each.
- (k) Ten (10) parts washers, known as Washers #1 through #10, installed between 1985 and 2000, capacity: 30 gallons of nonhalogenated solvent, each.
- (l) One (1) parts washer, known as Washer #11, installed in 1981, capacity: 100 gallons of nonhalogenated solvent.
- (m) One (1) magnetic sputtered vacuum deposition process (no emissions) with capacity not indicated as confidentiality was requested.
- (n) One (1) off-line soldering process with materials and capacities not indicated as confidentiality was requested, consisting of three (3) manual soldering stations, installed in 1997 and one (1) manual soldering station, installed in 1999, exhausted through Stack 77.
- (o) One (1) interleaving process, equipped with a baghouse on Line 6, exhausted through Stack 119 with materials and capacity not indicated as confidentiality was requested,
- (p) Two (2) storage tanks, known as Tanks 1 and 2, installed in 1989, capacity: 500 gallons of water treatment product(s), each.
- (q) Three (3) storage tanks, known as Tanks 4, 5 and 6, used to store fuel for emergency generator and pumps, installed in 1980, 1980 and 1997, capacity: 300 gallons of diesel fuel, each.
- (r) One (1) storage tank, known as Tank 3, installed in 1987, capacity: 2,000 gallons of water treatment product.
- (s) Two (2) storage tanks, known as Tanks 7 and 9, installed in 1999, capacity: 400 gallons of water treatment product(s), each.
- (t) Two (2) storage tanks, known as Tanks 8 and 10, installed in 1992, capacity: 400 gallons of water treatment product(s), each.
- (u) Sulfur dioxide roll surface preparation, using four (4) 40 pounds cylinders, with materials and capacities not indicated as confidentiality was requested.
- (v) One (1) maintenance booth, equipped with dry filters for overspray control, with spray cans and/or air atomization spray applicators, exhausted through Stack 7, installed 1986.

IDEM is aware that some of the above equipment was constructed and operated without OAQ approval because the facilities were exempt. All these facilities were exempt because even the total potential emissions, not considering the years in which the units were constructed, were less than the registration level permitting thresholds pursuant to 326 IAC 2-5.5-1.

#### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

### New Emission Units and Pollution Control Equipment

There are no new facilities proposed at this source during this review process.

### Equipment removed from service

The source has removed the following facilities/units:

- (w) One (1) glass crusher, equipped with a baghouse for particulate matter control, installed 1989.
- (x) One (1) windshield splitter operation, equipped with a baghouse, installed in 1987.
- (y) Two (2) natural gas-fired dryers, removed in 1991.
- (z) One (1) reaction injection molding process for encapsulation automotive windshields, installed in 1985/1986.

### Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Exemption CP 163-7037-00094, undated;
- (b) Registration status letter, issued October 28, 1981;
- (c) Exemption letter, issued January 20, 1987;
- (d) Exemption letter, issued April 21, 1987;
- (e) Registration status letter, issued February 15, 1989; and
- (f) Registration CP 163-8346-00094, canceled January 31, 2001.

All conditions from previous approvals were incorporated into this permit.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
14, 17, 20 & 23	Boilers #1 - #4	41.3	1.50	870	550
120	Preheat Oven	40.0	1.50	2,376	1,000
45	Silk Screen General Room Exhaust	40.0	0.60	3,000	68
55 & 56	Silk Screen Machine	40.0	1.00	3,000	68
69 & 74	Silk Screen Machine	40.0	1.00	2,100	68
70 & 75	Silk Screening BGK Dryer	40.0	1.00	3,000	200

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
49 & 50	Talc Application	40.0	2.00	2,500	68
117	Talc Application	40.0	1.20	3,600	68
119	Interleaving Equipment	16.5	1.30	3,200	68
121 - 128	2 Electric Ovens	44.0	0.67	passive	750
300	Felt Tip Applicator	44	0.67	600	68
301	Prime and Assembly Line	44	0.67	600	68
302	Boiler #5	20	1.33	870	550
77	Off-line Soldering	30	2.50	4,100	68
7	Maintenance Booth	40	2.83	12,200	68

#### Enforcement Issue

There are no enforcement actions pending.

#### Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 21, 2001, with additional information received on April 27, May 2 and 3, June 6, 2001 and November 30, 2001.

#### Emission Calculations

See pages 1 through 7 of 7 of Appendix A of this document for detailed emissions calculations.

Clip soldering PM emission (assume PM = PM<sub>10</sub>) = 0.025 lbs/hr or 0.109 tons of PM and PM<sub>10</sub> per year.

The interleaving process has a potential to emit PM of 1.645 tons/yr. With an 90% control efficiency, the potential to emit after controls is 1.645 tons/yr (1 - 0.90) = 0.165 tons of PM. Assume PM = PM<sub>10</sub>.

#### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

<b>Pollutant</b>	<b>Potential To Emit (tons/year)</b>
PM	16.0
PM <sub>10</sub>	11.1
SO <sub>2</sub>	1.12
VOC	57.3
CO	14.8
NO <sub>x</sub>	21.3

<b>HAPs</b>	<b>Potential To Emit (tons/year)</b>
Lead	0.00008
Nickel Compounds	0.0003
Manganese Compounds	0.00006
Chromium Compounds	0.0002
Ethyl Benzene	0.035
Xylene	1.46
MEK	0.673
Benzene	0.0003
Dichlorobenzene	0.0002
Formaldehyde	0.012
Hexane	0.294
Toluene	0.0006
Cadmium Compounds	0.00002
Flux Clip HAPs	0.109
TOTAL	2.58

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.
- (b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1998 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.123
PM <sub>10</sub>	0.123
SO <sub>2</sub>	0.025
VOC	9.69
CO	0.820
NO <sub>x</sub>	4.10
HAP	None Reported

### Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Surface Coating	0.268	0.268	-	less than 25	-	-	2.16
Talc Application	1.26	1.26	-	-	-	-	-
Natural Gas Combustion	0.311	1.24	0.098	0.900	13.7	16.4	0.309
Emergency Generators and Pumps	0.345	0.345	0.321	0.394	1.05	4.86	negligible
Parts Washers	-	-	-	4.08	-	-	0.00
Pre-fluxed Clips	0.109	0.109	-	0.109	-	-	0.109
Interleaving Process	0.165	0.165	-	-	-	-	-
Storage Tanks	-	-	-	negligible	-	-	negligible
SO <sub>2</sub> Roll Preparation	-	-	0.700	-	-	-	-
Unpaved Road	7.41	1.58	-	-	-	-	-
Total Emissions	9.87	4.97	1.12	less than 30.5	14.8	21.3	2.58



### County Attainment Status

The source is located in Vanderburgh County.

Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Vanderburgh County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Vanderburgh County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source based on the emissions summarized in this permit, MSOP 163-13849 is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPS is less than twenty-five (25) tons/year.

### Federal Rule Applicability

- (a) Each of the five (5) boilers is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc due to their rating being less than ten (10) million British thermal units per hour.
- (b) None of the storage tanks 1 - 10 is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110a or 110b, Subparts Ka or Kb, because none of the tanks installed after 1980 have capacities exceeding 40 m<sup>3</sup> (10,567 gallons).
- (c) The eleven (11) parts washers are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart T (40 CFR 63.460-469) since no halogenated HAP solvents are used.

### State Rule Applicability - Entire Source

#### 326 IAC 2-4.1-1 (New source toxics control)

The potential single and combination HAPs emissions from the entire source is less than ten (10) and twenty-five (25) tons per year. Specifically those facilities constructed after the July 27, 1997 applicability date of the rule can not produce finished product by themselves and therefore are not subject to the requirements of this rule.

#### 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year for Vanderburgh County of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

#### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following since the source is not located in the City of Evansville, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### 326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), visible emissions shall not cross the property line of the source at or near ground level.

### State Rule Applicability - Individual Facilities

#### 326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating)

Pursuant to 326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1 (b)), particulate emissions from the four (4) natural gas-fired boilers, #1, #2, #3 and #5, constructed in 1980 were in existence before September 21, 1983, and thus shall be limited by the following equation:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}} \quad Pt = \text{lbs of PM emitted per MMBtu heat input}$$

C = maximum ground level concentration (default = 50 u/m<sup>3</sup>)

a = plume rise factor (default = 0.67 for Q less than 1,000 MMBtu/hr)

h = stack height in feet (41.3 for #1, #2 and #3) and (20.0 for #5)

Q = total source maximum operating capacity (26.64 MMBtu/hr)

N = number of stacks in fuel burning operation (4)

For Boilers #1, #2 and #3

$$Pt = \frac{50 \text{ u/m}^3 * 0.67 * 41.3}{76.5 * 26.64^{0.75} * 4^{0.25}} = 1.09 \text{ pounds of particulate matter emitted per MMBtu heat input}$$

Pursuant to 326 IAC 6-2-3 (e), particulate emissions from all facilities used for indirect heating purposes which began operations after June 8, 1972, shall in no case exceed 0.6 pounds of particulate matter per million British thermal units heat input.

For Boiler #5

$$Pt = \frac{50 \text{ u/m}^3 * 0.67 * 20.0}{76.5 * 26.64^{0.75} * 4^{0.25}} = 0.528 \text{ pounds of particulate matter emitted per MMBtu heat input}$$

As derived from the spreadsheet for the boiler combustion, the PM emissions from the boilers are 0.218 tons per year for the 26.64 million British thermal units per hour. This is equivalent to 0.050 pounds per hour of particulate matter per 26.64 million British thermal units heat input or 0.0019 pounds per million British thermal unit. Therefore, the boilers comply with this rule.

326 IAC 6-2-4 (Emission limitations for facilities specified in 326 IAC 6-2-1(d))

The boiler #4 installed in 1987, rated at 8.38 million British thermal units per hour, installed after September 21, 1983, is subject to the requirements of this rule that limits PM emissions as follows:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million British thermal units.

Q = Total source maximum operating capacity rating in million British thermal units heat input. The maximum operating capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit, in which case, the capacity specified in the operation permit shall be used. (35.02 MMBtu/hr)

$$Pt = \frac{1.09}{35.02^{0.26}} = 0.432 \text{ pounds per million British thermal units.}$$

As derived from the spreadsheet for the boiler combustion, the PM emissions from this boiler is 0.068 tons per year for the 8.38 million British thermal units per hour. This is equivalent to 0.0156 pounds per hour of particulate matter per 8.38 million British thermal units heat input or 0.0019 pounds per million British thermal unit. Therefore, this boiler complies with this rule.

326 IAC 6-3-2 (Process Operations)

(a) Maintenance Surface Coating

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the maintenance surface coating booth shall be each be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour.

(b) Interleaving Processes

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from the interleaving processes shall not exceed 6.08 pounds per hour.

This allowable PM emission rate was calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour which has been requested to be confidential.

As shown in the emission calculation section of this document, the potential PM emission rate before controls for the interleaving process is 0.376 pounds per hour. Therefore since the PM emission rate before controls of 0.376 pounds per hour is less than the allowable PM emission rate of 6.08 pounds per hour, the interleaving process complies with the rule and the control equipment does not have to be operated in order to comply with 326 IAC 6-3-2.

(c) Offline Soldering

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from the offline soldering process shall not exceed 7.76 pounds per hour.

This allowable PM emission rate was calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour which has been requested to be confidential.

As shown in the emission calculation section of this document, the potential PM emission rate for the offline soldering process is 0.025 pounds per hour. Therefore since the PM emission rate of 0.025 pounds per hour is less than the allowable PM emission rate of 7.76 pounds per hour, the offline soldering process complies with 326 IAC 6-3-2.

(d) Talc Application Machines

(1) Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from the talc machine on Line 1 shall not exceed 6.48 pounds per hour.

(2) Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from each of the talc machines on Lines 8A and 8b each shall not exceed 4.21 pounds

per hour.

These allowable PM emission rates were calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour which has been requested to be confidential.

As shown in the spreadsheet on Page 7 of 7 of Appendix A, the potential PM emission rates before controls for the three (3) talc application machines on Line 1, 8A and 8B are 0.0391 pounds per hour and 0.482 pounds per hour per machine for Lines 8A and 8B. Therefore since the PM emission rates before controls are less than the allowable PM emission rates, the talc machines comply with the rule and the control equipment does not have to be operated in order to comply with 326 IAC 6-3-2.

#### 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

None of the facilities at this source have the potential to emit SO<sub>2</sub> at the rates of twenty-five (25) tons per year or ten (10) pounds per hour, or greater. Therefore pursuant to 326 IAC 7-1.1-1 this rule is not applicable to any of the facilities at this source.

#### 326 IAC 8-1-6 (New facilities: general reduction requirements)

This rule may apply to new facilities constructed after January 1, 1980 that have the potential to emit twenty-five (25) tons of VOC per year or more.. Since the potential VOC emissions from coating glass from the laminating, tempering and conductive coating lines constructed after 1980 may be greater than twenty-five (25) tons per year, therefore 326 IAC 8-1-6 may apply to these facilities. Since there are parallel and in series lines, the potential to emit from the coating facilities constructed after 1980 is greater than twenty-five (25) tons per year.

PPG Industries, Inc. has agreed to accept an operating permit limitation for actual volatile organic compounds (VOC) delivered to the applicators of less than twenty-five (25) tons per twelve (12) consecutive month period for the entire coating operation, including facilities constructed prior 1980 to make the record keeping easier for the source. Compliance with this VOC emission limitation will render the requirements of 326 IAC 8-1-6 not applicable to the source. PPG Industries, Inc. is entitled in the future to request that this VOC emission limitation be removed by providing a Best Available Control Technology (BACT) analysis with an application to IDEM, OAQ and comply with all State and Federal rules that are applicable at that time.

#### 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)

Pursuant to 326 IAC 8-2-1(a)(2), the maintenance paint booth constructed in 1986 is not subject to this rule since the potential VOC emissions from this booth, when coating metal substrates, are less than twenty-five (25) tons per year.

#### 326 IAC 8-3-2 (Cold Cleaner Operations)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5(a) and (b) (Cold Cleaner Degreaser Operation and Control)

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, shall ensure that the following requirements are met:
  - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
    - (B) The solvent is agitated; or
    - (C) The solvent is heated.
  - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
  - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

- (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
  - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
  - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
  - (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

## Conclusion

The construction and operation of this tempered and laminated glass screen printing source shall be subject to the conditions of the attached proposed Minor Source Operating Permit 169-13489-00094.

**Appendix A: Emission Calculations  
Internal Combustion Engines - Diesel Fuel**

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**Reciprocating**

**Company Name: PPG Industries, Inc.**  
**Address City IN Zip: 424 East Inglefield Road, Evansville, Indiana 47725**  
**MSOP: 163-13849**  
**Pit ID: 163-00094**  
**Reviewer: Mark L. Kramer**  
**Date: December 21, 2000**

Emissions calculated based on output rating (hp)

Emergency based on 500 hours per year

**One (1) emergency diesel generator, known as EG1, rated at 197 horsepower**

**Two (2) emergency pumps, known as EP-1 and EP-2, rated at 215 horsepower each**

Mechanical Output  
Horsepower (hp)

Potential Throughput  
hp-hr/yr

627.0

313500.0

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.345	0.345	0.321	4.859	0.394	1.047

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 8760 hr/yr

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 8760 hr/yr / (2,000 lb/ton )

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton )

\*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.



**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100  
Small Industrial Boiler**

Page 2 of 7 TSD App A

**Company Name: PPG Industries, Inc.  
Address City IN Zip: 424 East Inglefield Road, Evansville, Indiana 47725  
MSOP: 163-13849  
Plt ID: 163-00094  
Reviewer: Mark L. Kramer  
Date: December 21, 2000**

Individual Ratings of Combustion Units Claimed Confidential

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

38.092

327.14

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.311	1.243	0.098	16.36	0.900	13.74

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 3 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**

**Page 3 of 7 TSD App A**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Small Industrial Boiler**

**HAPs Emissions**

**Company Name: PPG Industries, Inc.**

**Address City IN Zip: 424 East Inglefield Road, Evansville, Indiana 47725**

**MSOP: 163-13849**

**Plt ID: 163-00094**

**Reviewer: Mark L. Kramer**

**Date: December 21, 2000**

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.435E-04	1.963E-04	1.227E-02	2.944E-01	5.561E-04

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	8.179E-05	1.799E-04	2.290E-04	6.216E-05	3.435E-04	0.309

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[illegible][illegible]

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used

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**Company Name:** PPG Industries, Inc.  
**Address City IN Zip:** 424 East Inglefield Road, Evansville, Indiana 47725  
**MSOP:** 163-13849  
**PIt ID:** 163-00094  
**Reviewer:** Mark L. Kramer  
**Date:** December 21, 2000

[illegible]

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Ethyl Benzene	Weight % Xylenes	Weight % MEK	Weight %	Weight %	Weight %	Flashoff Factor	Ethyl Benzene Emissions (tons/yr)	Xylenes Emissions (tons/yr)	MEK Emissions (tons/yr)	Emissions (tons/yr)	Emissions (tons/yr)	Emissions (tons/yr)
Materials and Usage Rates																
Confidential																
Individual Total											0.034	1.457	0.673	0.000	0.000	0.000
Grand Total HAPs											2.16					

$$\text{HAPS emission rate (tons/yr)} = \text{Density (lbs/gal)} * \text{Gal of Material (gal/unit)} * \text{Maximum (unit/hr)} * \text{Weight \% HAP} * 8760 \text{ hrs/yr} * 1 \text{ ton}/2000 \text{ lbs}$$

# Appendix A: Emission Calculations Unpaved Roads

Company Name: PPG Industries, Inc.  
Address City IN Zip: 424 East Inglefield Road, Evansville, Indiana 47725  
MSOP: 163-13849  
Plt ID: 163-00094  
Reviewer: Mark L. Kramer  
Date: December 21, 2000

Vehicle Type	Weight tons	% of Traffic	Weighted Avg tons
Pick-up/Vans	2.5	20.00%	0.5
Tractor trailer Empty	12.5	40.00%	5.0
Tractor-trailer Full	40	40.00%	16.0
			21.5

The following calculations determine the amount of emissions created by unpaved roads, based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).

Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

1 trip/hr x  
0.1 mile/trip x  
2 (round trip ) x  
8760 hr/yr = 1752 miles per year

$$E_f = \{k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(Mdry/0.2)^c] \cdot [(365-p)/365]\}$$

= 8.46 lb/mile

where k = 10 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)

s = 4.8 mean % silt content of unpaved roads

b = 0.5 Constant for PM-10 (b = 0.5 for PM-30 or TSP)

c = 0.4 Constant for PM-10 (c = 0.4 for PM-30 or TSP)

W = 21.5 tons average vehicle weight surface material moisture content, % (default is 0.2 for dry conditions)

Mdry = 0.2 number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

p = 125 (See Figure 13.2.2-1)

PM 8.46 lb/mi x 1752 mi/yr = 7.41 tons/yr  
2000 lb/ton

$$E_f = \{k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(Mdry/0.2)^c] \cdot [(365-p)/365]\}$$

= 1.81 lb/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)

s = 4.8 mean % silt content of unpaved roads

b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)

c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)

W = 22 tons average vehicle weight surface material moisture content, % (default is 0.2 for dry conditions)

Mdry = 0.2 number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

p = 125 (See Figure 13.2.2-1)

PM-10 1.81 lb/mi x 1752 mi/yr = 1.58 tons/yr  
2000 lb/ton

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**Date:** December 21, 2000

## Process

Confidential Material and Usage Rates

Potential to Emit PM Into the Air = 0.1309 lb/hr

Pot. to emit PM after controls (lbs/hr) 0.056

Potential to Emit PM Into the Air = 0.9639 lb/hr

Total PM Before Controls	1.0948 lb/hr =	4.80 tons/yr	Pot to emit PM after controls (lbs/hr)	0.231
Total PM After Controls	0.287 lb/hr =	1.26 tons/yr		

Facility	Summary of Potential Emissions (tons/yr)						HAPs
	PM	PM-10	VOC	SO2	NOX	CO	
Surface Coating Before Control	1.340	1.340	51.800	0.000	0.000	0.000	2.160
Natural Gas Combustion	0.311	1.240	0.900	0.098	16.400	13.700	0.309
Emerg Generators & Pumps	0.345	0.345	0.394	0.321	4.860	1.050	negligible
SO2 Roll Preparation	0.000	0.000	0.000	0.700	0.000	0.000	0.000
Pre-fluxed clips	0.109	0.109	0.109	0.000	0.000	0.000	0.109
Solvent Washers*	0.000	0.000	4.080	0.000	0.000	0.000	0.000
Interleaving Before Control	1.645	1.645	0.000	0.000	0.000	0.000	0.000
PM Application Before Control	4.795	4.795	0.000	0.000	0.000	0.000	0.000
Unpaved Roads	7.410	1.580	0.000	0.000	0.000	0.000	0.000
<b>Total Before Control</b>	<b>15.96</b>	<b>11.05</b>	<b>57.28</b>	<b>1.12</b>	<b>21.26</b>	<b>14.75</b>	<b>2.58</b>

\* Not including 11.63 tons of VOC per year recycled

Surface Coating After Control	0.268	0.268	51.800	0.000	0.000	0.000	2.160
Natural Gas Combustion	0.311	1.240	0.900	0.098	16.400	13.700	0.309
Emerg Generators & Pumps	0.345	0.345	0.394	0.321	4.860	1.050	negligible
SO2 Roll Preparation	0.000	0.000	0.000	0.700	0.000	0.000	0.000
pre-fluxed clips	0.109	0.109	0.109	0.000	0.000	0.000	0.109
Solvent Washers*	0.000	0.000	4.080	0.000	0.000	0.000	0.000
Interleaving After Control	0.165	0.165	0.000	0.000	0.000	0.000	0.000
PM Application After Control	1.257	1.257	0.000	0.000	0.000	0.000	0.000
Unpaved Roads	7.410	1.580	0.000	0.000	0.000	0.000	0.000
<b>Total After Control</b>	<b>9.87</b>	<b>4.96</b>	<b>57.28</b>	<b>1.12</b>	<b>21.26</b>	<b>14.75</b>	<b>2.58</b>